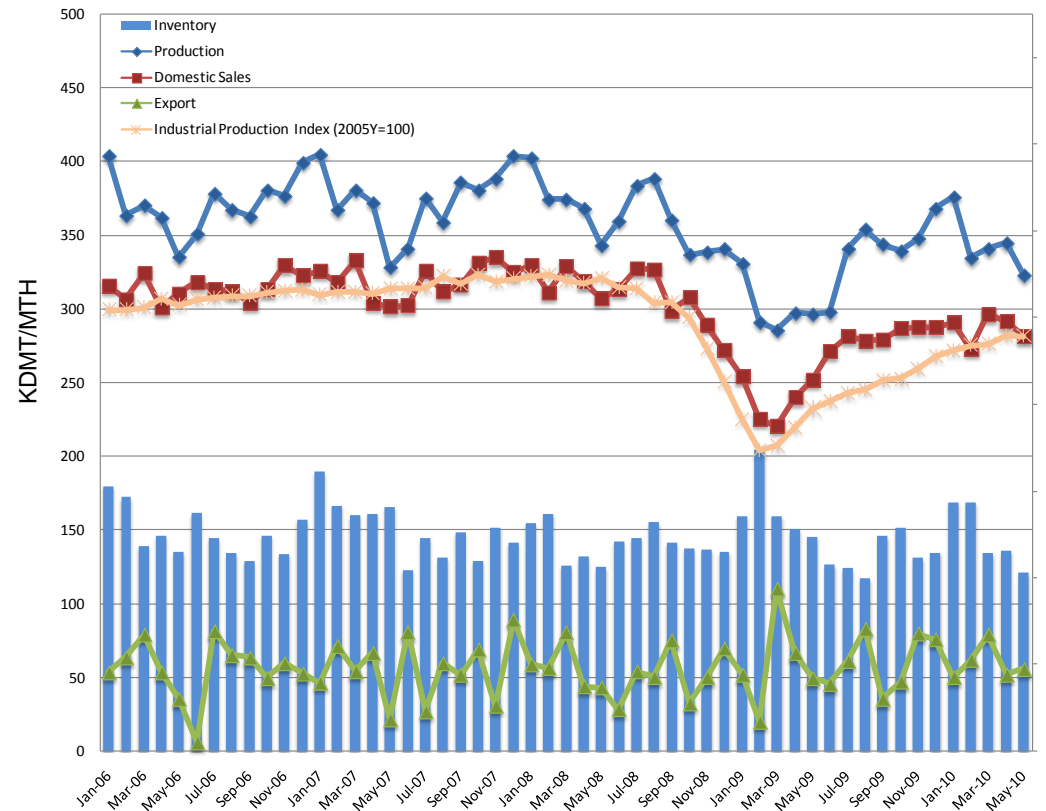


- ✓ Chlor Alkali Market in Japan
- ✓ Caustic Soda Market in China
- ✓ Caustic Soda Import to Australia
- ✓ Caustic Soda Market in US

Supply/Demand Balance in Japan

Supply/Demand Balance in Japan



(KDMT/Y)	07	08	09	10 Jan.-May.	10 (F)
TOSOH	1,140	1,290	1,290		1,290
ASAHI GLASS	520	520	520		520
TOKUYAMA	490	490	490		490
KASHIMA CHLOR-ALKALI	400	400	400		400
KANEKA	360	360	360		360
TOA GOSEI	290	290	290		290
Others	1,842	1,862	1,862		1,882
Total Capacity	5,042	5,212	5,212	2,180	5,232
Production	4,489	4,373	3,895	1,720	4,300
Operation rate	89%	84%	75%	79%	82%
Domestic Demand	3,820	3,729	3,167	1,421	3,600
growing rate	1%	-2%	-15%	23%	14%
Import	0	0	0	0	0
Export	669	644	728	299	700

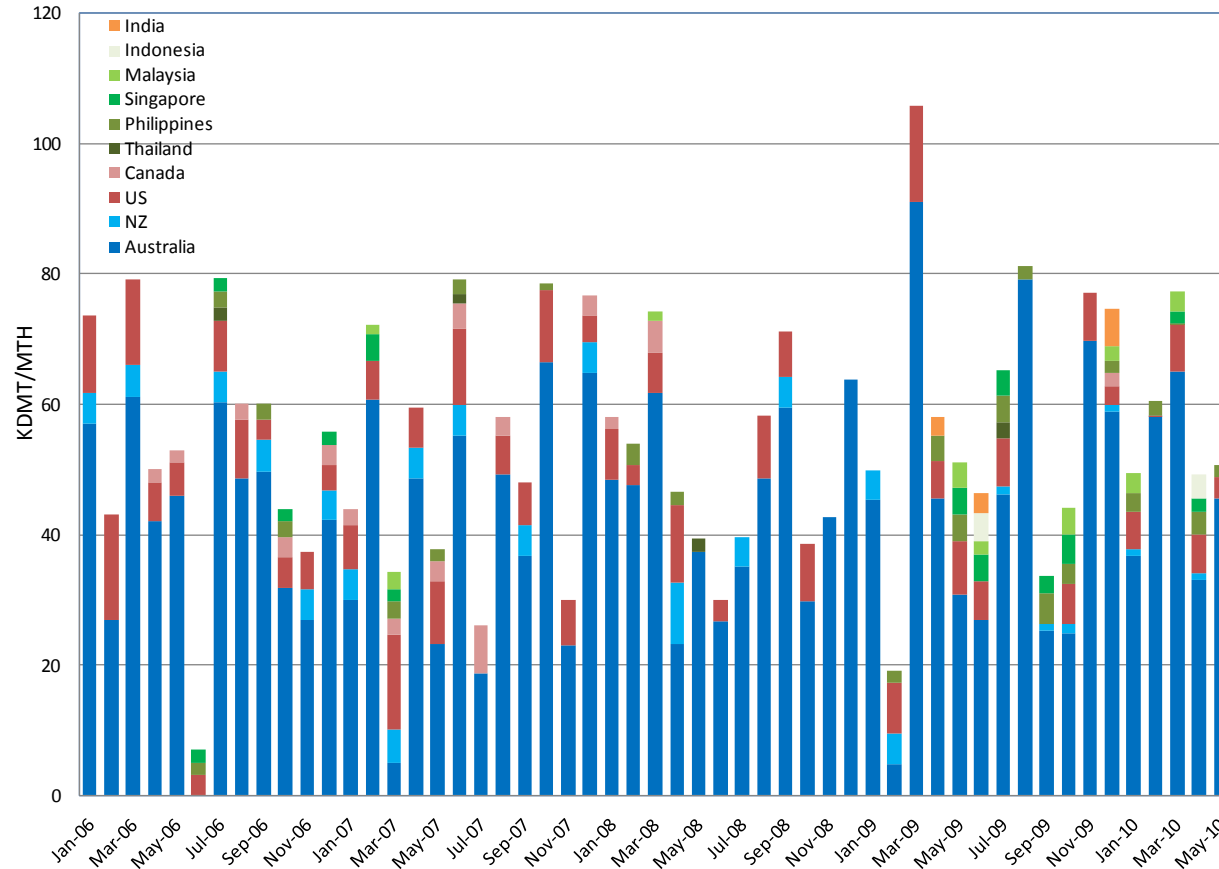
Demand = Production – Export + Import

In 2010, Japanese domestic demand is recovering gradually.
V-Tech plant (Capacity 180kDMT/y) will be closed in March 2011.

Caustic Soda Export from Japan

Japanese export

(KDMT/Y)



	07	08	09	10 Jan.–May.
Australia	481	524	549	239
NZ	29	19	14	2
US	89	58	66	22
Canada	25	7	2	0
China	7	0	1	0
Thailand	1	2	3	0
Philippines	8	5	26	11
Singapore	6	0	19	4
Malaysia	4	2	12	6
Indonesia	0	0	4	4
India	0	0	12	0
Brazil	0	6	0	0
Taiwan	0	0	0	5
Total	653	622	708	294

Source : Export Custom Statistics 281512

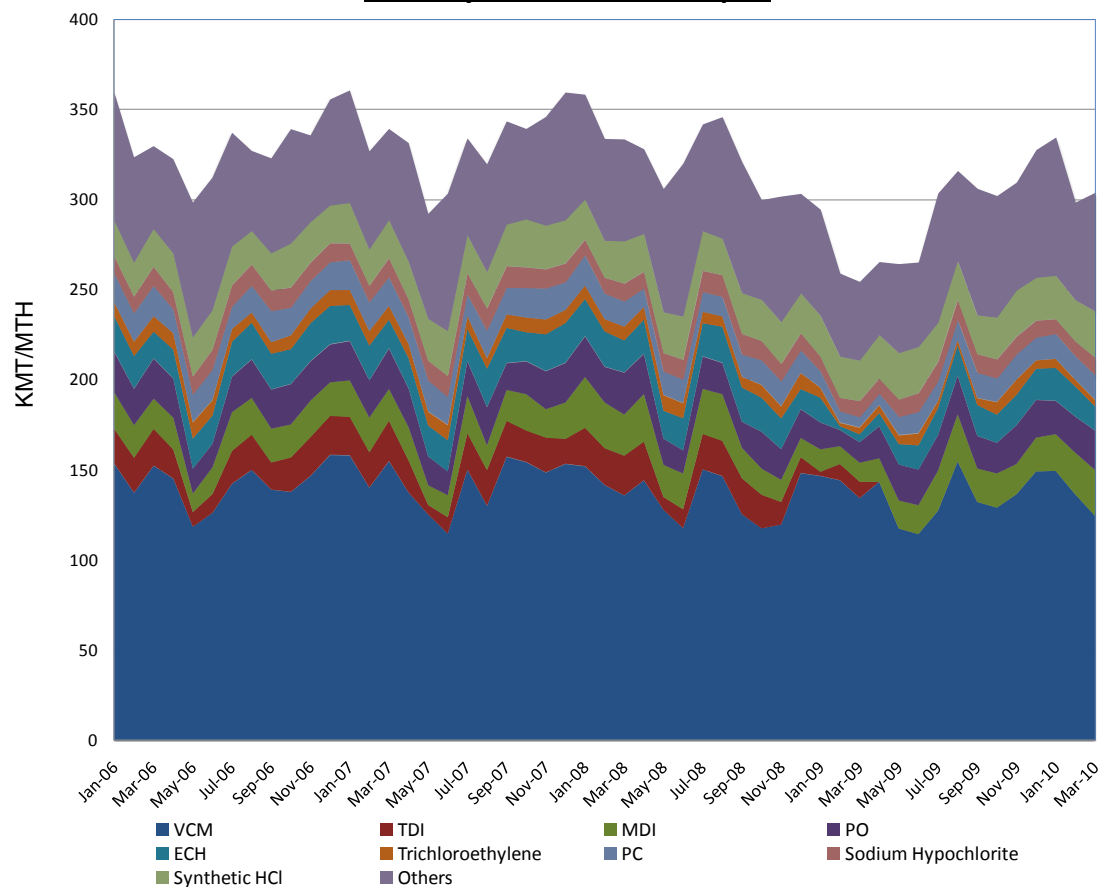
Source : Export Custom Statistics 281512 : main destination selectively

Over 80% of Japanese Export volume is for Australia.

Due to closure of V-Tech plant, Japanese export volume will be decreased in 2011 onward.

Chlorine Use in Japan

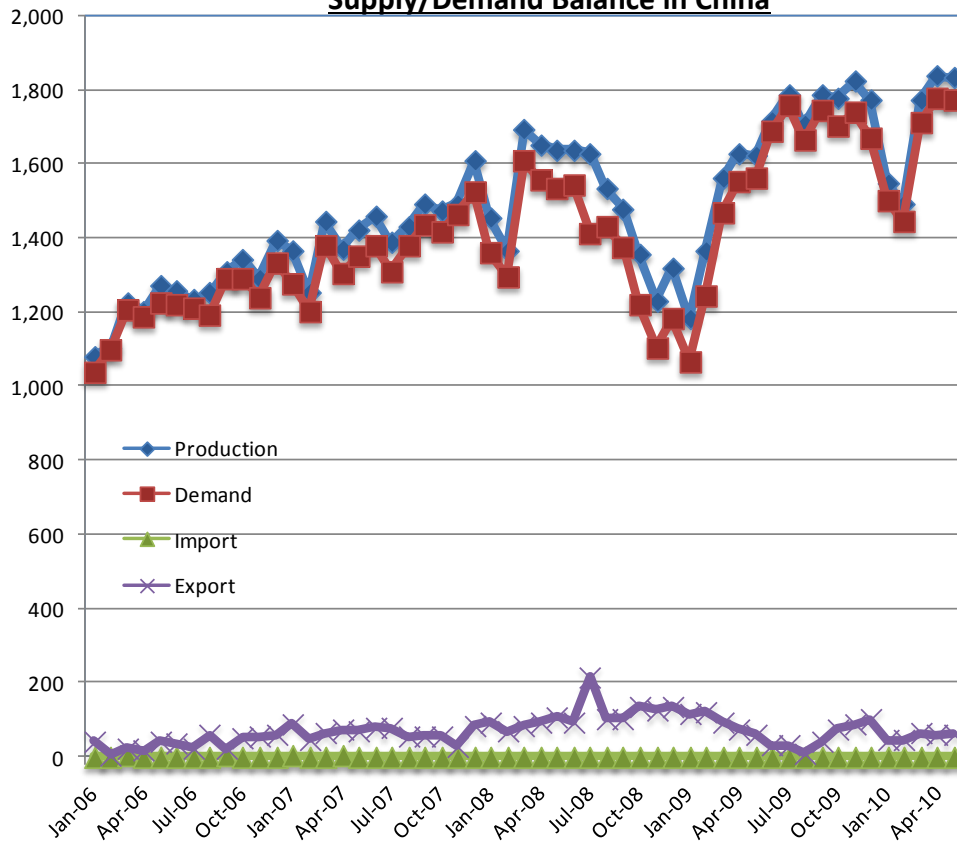
Monthly Chlorine Use in Japan



(%)	07	08	09	10 1Q
VCM	43	42	47	44
TDI	5	5	NA	NA
MDI	5	6	6	7
PO	6	6	6	6
ECH	6	5	4	5
Trichloro ethylene	2	2	2	1
PC	5	4	4	4
Sodium Hypochlorite	3	3	3	3
Synthetic HCl	7	7	8	8
Others	18	20	20	22
TTL(%)	100	100	100	100
Chlorine Supply (kmt)	4,000	3,890	3,465	935

Supply/Demand Balance in China

Supply/Demand Balance in China



(KDMT/Y)	07	08	09	10 Jan.-May.	10 (F)
SHANGHAI CHLOR ALKALI	760	760	660		840
TIANJIN DAGU	620	620	620		620
JUHUA GROUP	380	430	590		590
SHANDONG HAILI CHEMICAL	320	500	500		500
QILU	450	450	450		450
SINGPU CHEMICALS	300	450	450		450
OTHERS	16,738	20,992	25,940		28,839
Total Capacity	19,568	24,202	29,210	13,453	32,289
Production	17,222	18,013	18,910	8,493	21,000
Operation rate	88%	74%	65%	63%	65%
Domestic Demand	16,445	16,646	18,064	8,219	20,305
growing rate	17%	1%	9%	19%	12%
Import	12	5	5	1	5
Export	789	1,372	851	275	700

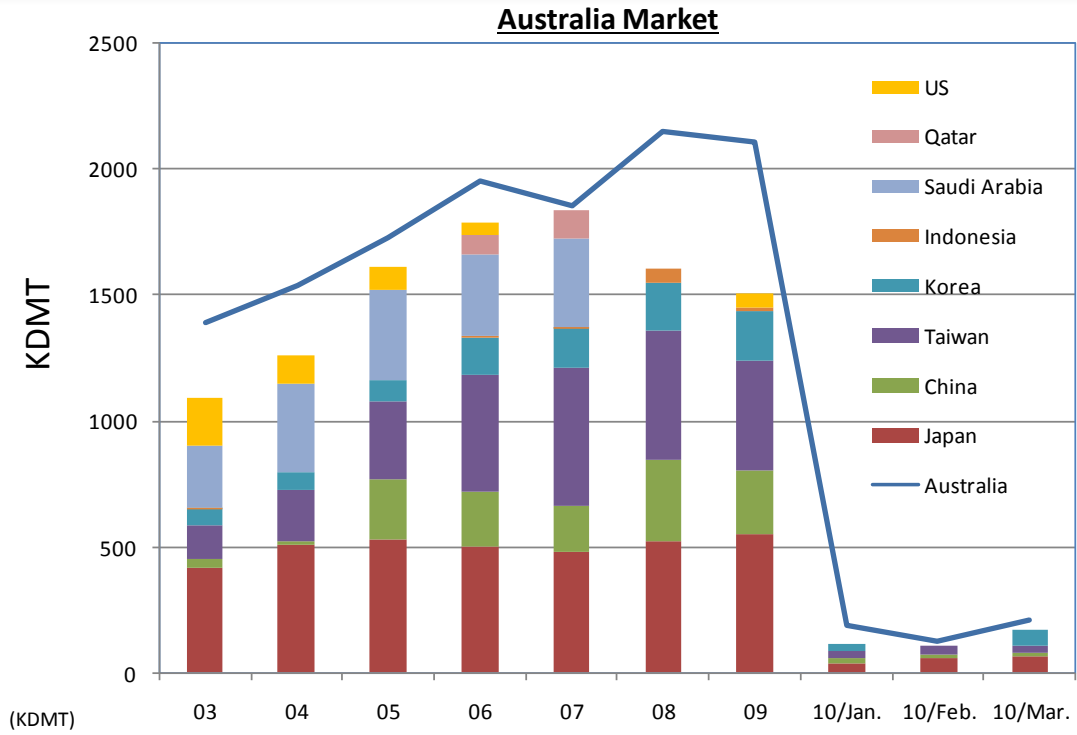
Demand = Production – Export + Import

Source: China Petro Chemical Industry Association and Custom Statistics
Capacity in 1Q/'09 = '08

Chinese domestic demand is expected to increase by approx. 12% in 2010.

Chinese export volume has been decreasing on background of healthy domestic demand and the price gap between domestic and export.

Caustic Soda Import to Australia



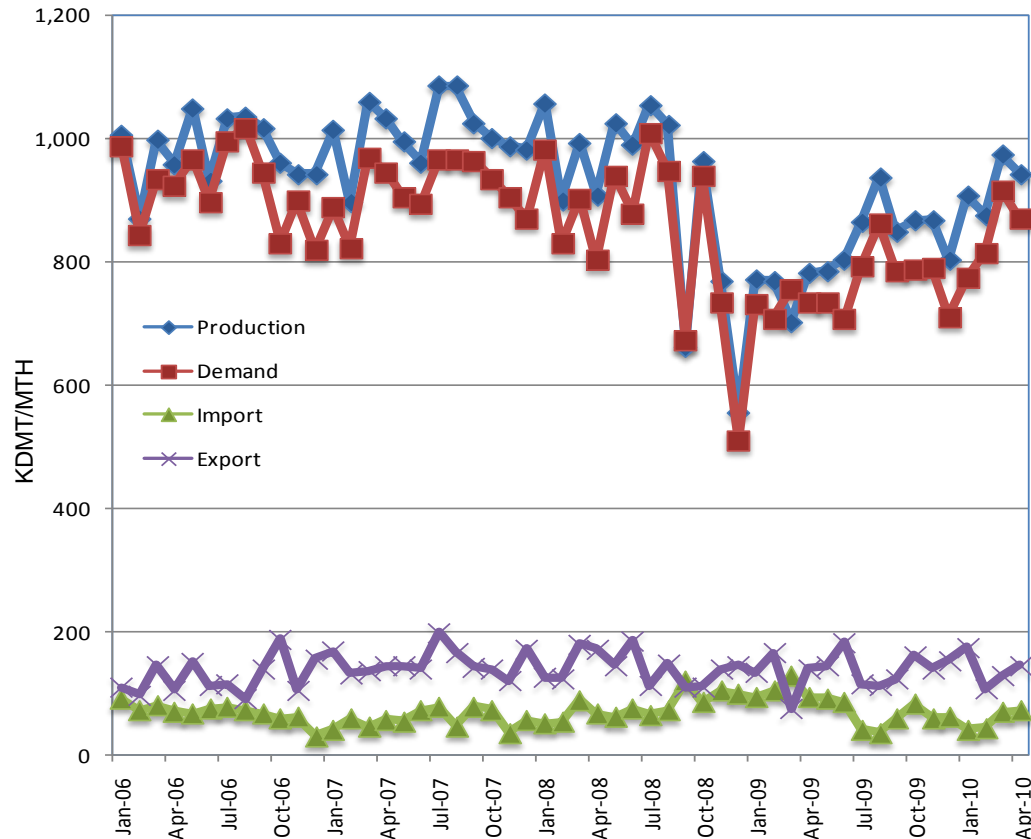
Source : Import Custom Statistics 281512 (Australia)
Export Custom Statistics 281512 (Exporter)

Country	03	04	05	06	07	08	09	10/Jan.	10/Feb.	10/Mar.	10/1Q Total
Importer Australia	1389	1538	1729	1952	1855	2149	2110	189	129	216	534
Exporter Japan	418	504	525	498	481	524	552	37	58	65	160
China	30	20	240	219	180	319	253	21	14	14	49
Taiwan	135	200	314	466	547	518	431	28	32	28	88
Korea	70	70	86	148	163	191	201	25	0	62	87
Indonesia	5	0	0	9	5	55	12	NA	NA	NA	NA
Saudi Arabia	244	356	358	321	349	NA	NA	NA	NA	NA	NA
Qatar	NA	NA	NA	77	110	NA	NA	NA	NA	NA	NA
US	187	112	92	49	0	0	56	0	0	0	0

Australia is stable market.

Supply/Demand Balance in US

Supply/Demand Balance in US



(KDMT/Y)	07	08	09	10 Jan.-Apr.	10 (F)
DOW	4,292	4,292	3,892		3,892
OXY	2,786	2,591	2,641		2,641
PPG	1,772	1,772	1,772		1,772
OLIN	995	1,344	1,393		1,393
FPC/USA	810	810	810		810
SHINTECH	0	330	330		490
Others					
Total Capacity	13,215	13,386	13,160	4,482	13,445
Production	12,459	10,941	9,807	3,703	10,800
Operation rate	94%	82%	75%	83%	80%
Domestic Demand	11,358	10,188	9,104	3,375	9,800
growing rate	3%	-10%	-11%	14%	8%
Import	705	951	945	229	700
Export	1,806	1,704	1,648	557	1,700

Demand = Production – Export + Import

Source: Chlorine Institute and Custom Statistics

In 2010, operating ratio has been kept at high level due to the recovery of demand for Caustic Soda and Chlorine derivatives.

Major expansion plan : Shintech (Plaquemine) +160kMT/y (2010), +570kDMT/y (2012)

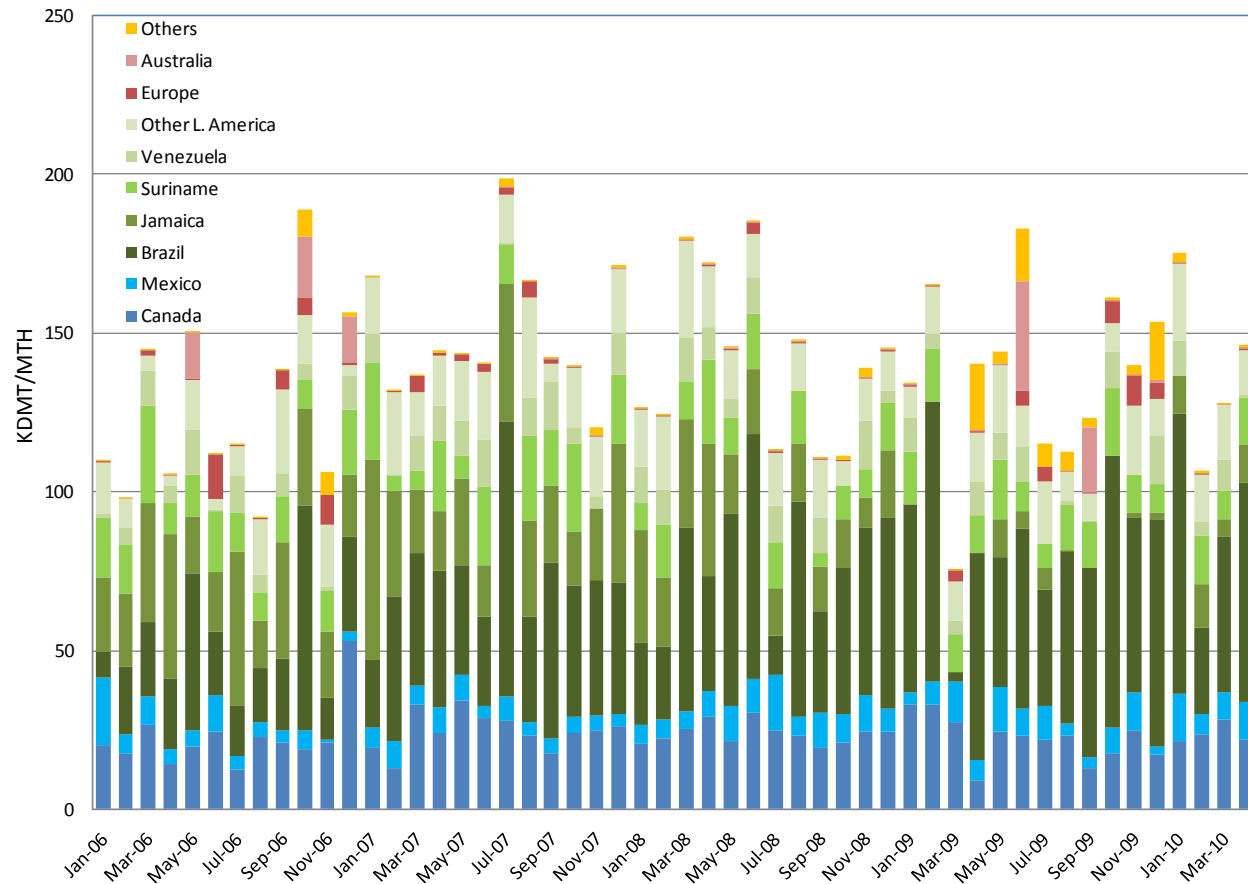
FPC USA (Point Comfort) +200kDMT/y (2011)

Dow/Mitsui (Freeport) +880kDMT/y (2013)

Caustic Soda Export from US

Monthly Caustic Soda Export from US

(KDMT/Y)



	07	08	09	10 Jan.-Apr.
Canada	294	285	266	95
Mexico	72	110	94	42
Brazil	514	553	676	233
Jamaica	362	265	28	43
Suriname	202	163	164	39
Venezuela	106	105	79	26
Other L. America	224	204	166	71
Europe	22	9	38	1
Australia	0	0	56	0
India	0	0	62	0
Turkey	0	3	5	0
Others	9	6	14	5
Total	1806	1704	1648	557

Source : Export Custom Statistics 281512

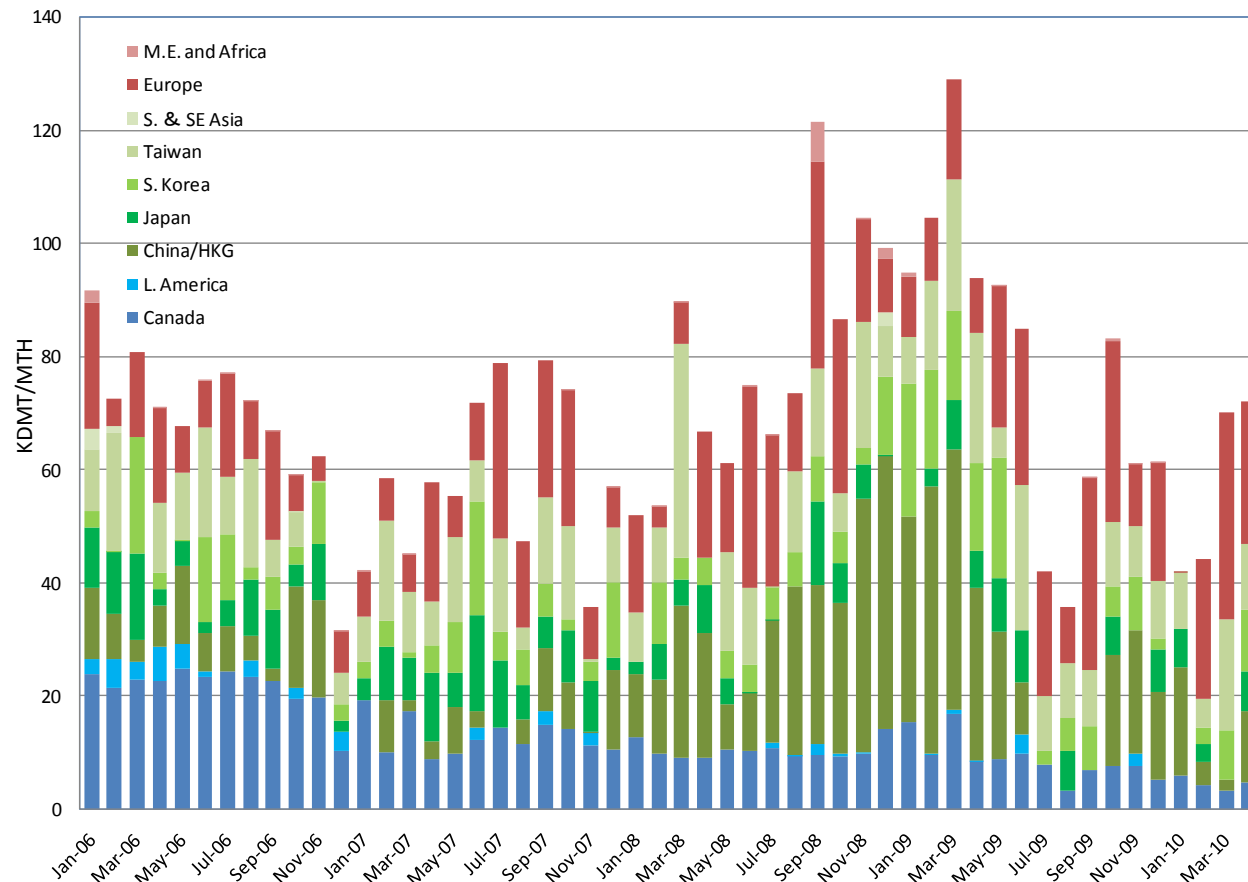
The import volume for Alumina refineries in Latin America was reduced drastically in 2009.

In 2010, several Alumina refineries have restarted their operation.

Caustic Soda Import to US

Monthly Caustic Soda Import to US

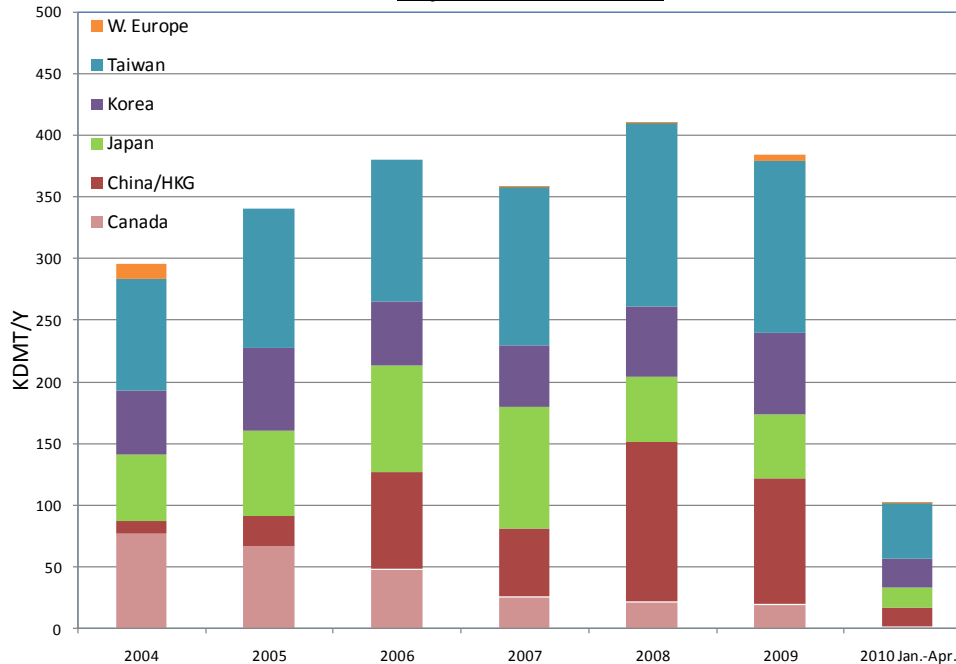
(KDMT/Y) Source: Import Custom Statistics 281512



	07	08	09	10 Jan.-Apr.
Canada	156	127	109	18
L. America	7	3	6	0
China/HKG	64	291	249	38
Japan	99	54	58	17
S. Korea	78	71	126	23
Taiwan	129	155	162	46
S. / S.E. Asia	0	2	0	0
Belgium	69	59	60	15
France	0	7	0	4
Germany	26	33	6	15
Netherlands	24	50	73	36
Norway	9	12	50	9
Poland	3	0	0	0
Romania	6	64	8	0
Spain	0	0	0	0
Sweden	0	3	0	0
Switzerland	0	0	3	0
UK	34	10	32	7
M. E. /Africa	0	9	3	0
Total	705	951	945	229

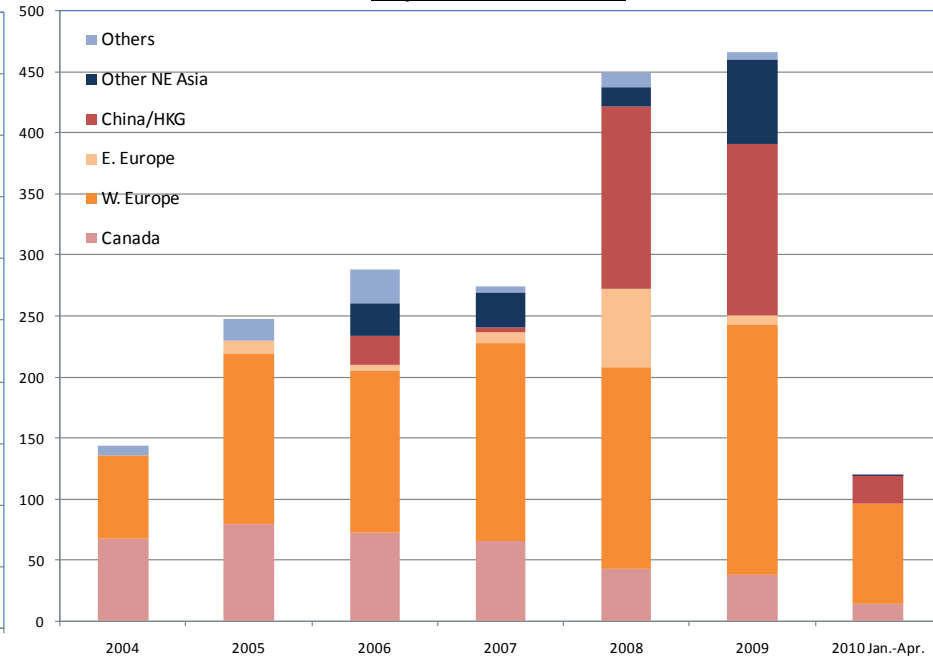
Caustic Soda Import to W. & E. Coast

Import @ West Coast



	04	05	06	07	08	09	10 Jan.-Apr..
Canada	77	67	47	26	21	19	1
China/HKG	9	25	79	55	129	102	15
Japan	54	69	87	99	53	52	17
Korea	52	67	51	50	58	66	23
Taiwan	90	113	115	129	150	140	46
W. Europe	12	0	0	0	0	5	0
TTL	295	340	379	358	411	384	102

Import @ East Coast



	04	05	06	07	08	09	10 Jan.-Apr.
Canada	67	79	73	65	43	37	14
W. Europe	69	140	132	162	165	205	82
E. Europe	0	12	5	9	64	8	0
China/HKG	0	0	23	4	149	141	23
Other NE Asia	0	0	27	29	16	69	0
Others	7	17	28	5	11	6	0
TTL	143	247	289	274	449	466	120

Source: Import Custom Statistics 281512